

REMARKS

I. Introduction

Claims 1-3, 6-10, 13-16 and 19 are pending in the above application.

Claims 1-3, 6-10, 13-16 and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable.

Claims 1, 8 and 15 are independent claims.

II. Prior Art Rejections

Claims 1, 6-8, 13-15 and 19 stand rejected under 35 U.S.C. § 102 stand rejected under 35 U.S.C. § 103 as being unpatentable over Pavlic et al. (U.S. Pat. 5,130,664) (hereafter “Pavlic”) and Crane (U.S. Pat. 4,731,614).

Applicant respectfully traverses the rejection. While Applicant’s appreciate the Examiner’s response to Applicant’s explanations, the Examiner’s rationale is respectfully misplaced.

First, the Examiner appears to disagree with the legal requirements to establish a prima facie case of obviousness set forth by the U.S. Court of Appeal for the Federal Circuit (CAFC or Fed. Cir.) and restated in the MPEP. The Examiner goes on to advance his own test for obviousness as “the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” Office action, pg. 5. No citations to any precedential authority in support of this test are provided by the Examiner. The test for obviousness has been repeatedly explained by the courts since the enactment of 35 U.S.C. § 103 in the 1950s. While the Examiner may believe his judgment to be superior to that of the courts and the drafters of the MPEP, it is well established that the Federal Circuit provides binding precedent which must be

followed by the USPTO, as an administrative agency, and by the personnel employed therein and their actions may be appealed to the Federal Circuit. See, 35 U.S.C. § 141.

As repeatedly explained by the courts, the test for obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fulton*, 391 F.3d 1195, 1199-02 (Fed. Cir. 2004). *Ecolochem Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 56 U.S.P.Q.2d (BNA) 1065 (Fed. Cir. 2000); *In re Kotzab*, 217 F.3d 1365, 1369 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2D (BNA) 1614, 1617 (Fed. Cir. 1999); *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992); and *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). See also MPEP 2143.01, 2143.03 (“To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art”) (citations omitted). See also, MPEP 2143 “Basic Requirements of a Prima Facie Case of Obviousness.

A. The Combination Does Not Disclose All Of The Claimed Limitations

As explained in Applicant’s previous response, the combination of Pavlic and Crane, even if considered legally permissible, *arguendo*, does not produce all of the limitations of the claims. Particularly, as neither Pavlic nor Crane disclose to use two different techniques in a system with directional couplers, the resulting combination clearly cannot be considered to achieve such. More particularly, as explained, neither Pavlic nor Crane, taken alone or in combination disclose or suggest a directional coupler which includes using an input duplex filter for splitting an input signal into a high band signal and a low band signal, a highband directional

coupler which is stripline or microstrip technology and a lowband directional coupler which is ferrite transformer technology an, as substantially required by amended claims 1, 8 and 15.

Pavlic discloses a repeater station for a CATV network. Pavlic does not disclose to use a highband directional coupler which is stripline or microstrip technology and a lowband directional coupler with is ferrite transformer technology. Crane discloses a phased array scanning system which appear to operate in excess of 60 GHz. Crane, col. 1: 36-54. Crane discloses to use microstrip and stripline technologies. Crane, col. 5: 10-16 and col. 6: 20-50. Crane also does not disclose to use both stripline or microstrip technology for a highband directional coupler and ferrite transformer technology for a lowband directional coupler.

Accordingly, as the combination of Pavlic and Crane does not produce all of the claimed limitations of claims 1, 8 or 15, the combination of Pavlic and Crane does not render these claims unpatentable.

B. The Combination Is Impermissible Because Crane Is Not Analogous Art

Moreover, Crane is not analogous art to Applicant's invention. Prior art for obviousness under 35 USC § 103 must be analogous art. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); *In re Clay*, 966 F.2d 656, 23 USPQ 2d 1058 (CAFC 1992). The court in *In re Clay* defined analogous art as: 1) art which is in the *same field of endeavor*, or 2) art which is *reasonably pertinent to the particular problem which the inventor is involved*. *Id.* Where reasonable pertinence to the inventors particular problem is shown by whether the prior art has the *same purpose and is faced with the same problem* solved by the inventor. *Id.*

Crane is clearly not in the same field of endeavor as Applicant, contrary to the Examiner's assertion on page 5 of the Office action. The Examiner does not cite to any portions

of Crane to support the allegation. Crane is clearly concerned with a phased array scanning system which appears to be essentially for a radar system. Crane, col. 1: 5-8 (“phased arrays can be designed to form multiple beams in space ... and provide adaptive capabilities for electronic counter measure purposes”); col. 5: 16-20 (“note that the single path encounters the same number of noise contributions as a conventional radar”). Crane clearly is not a CATV system, and Crane is not a system which is intended to carry communication signals associated with a CATV system. Crane clearly is not in the same field of endeavor as Applicant’s invention.

Crane is also not reasonably pertinent to the problem solved by Applicants, i.e. Crane does not have the same purpose and is not faced with the same problem by virtue of being concerned with much higher frequencies. The frequencies to which Crane is concerned are about a factor of 10 to 95 greater than the present invention, e.g. “up through 95GHz” (Crane, col. 1: 40-45; col. 2: 35-38) compared to Applicant’s 1 GHz. Indeed, Crane identifies the ferrite technology to only have a problem above 26GHz for cost (26 times higher than in Applicant’s invention), and 60GHz for performance (60 times higher than Applicant’s invention). The upper frequency limit is Pavlic is 1GHz. Moreover, the purpose in Crane is to “beam” frequencies into space, hoping to detect a target based on a reflection of the signals transmitted (Crane, col. 1: 5-8), Crane is not concerned with transmitting data over a medium, such as a coaxial cable, in a CATV system. Clearly, one of skill in the art of Applicant’s invention would not look for solutions to their problems in a phase array environment of Crane.

Accordingly, Crane is clearly not analogous art to Applicant’s invention, and it is impermissible to rely on Crane to reject Applicant’s claims in an obviousness rejection.

C. The Rejection Is Improper For Being Based On Impermissible Hindsight

The rejection appears to be based on impermissible hindsight. In short, the rejection is clearly based on following the trail blazed by Applicant and the stated motivation for the combination in the rejection is at best nothing more than speculation. The "motivation-suggestion-teaching" requirement protects against the entry of hindsight into the obviousness analysis, a problem which § 103 was meant to confront. *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006), reh'g den. *In re Kahn*, 2006 U.S. App. LEXIS 14563 (Fed. Cir., June 1, 2006); *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001) ("To prevent hindsight invalidation of patent claims, the law requires some 'teaching, suggestion or reason' to combine cited references.") (quoting *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997)). It should be recognized that the fact that the prior art could be modified so as to result in the combination defined by the claims at bar would not have made the modification obvious unless the prior art suggests the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986). Recognizing, after the fact, that such a modification would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner*, 379 F.2d 1011, 154, USPQ 173 (CCPA 1967).

The Examiner appears to recognize that Pavlic discloses using only ferrite couplers. The Examiner then appears to rely on Crane as disclosing to use stripline technology in place of ferrite technology. In short, the rejection appears to assert that one of skill in the art would use the ferrite technology of Pavlic for a "low band directional coupler" but replace Pavlic ferrite couplers with the strip line technology of Crane for a "high band" directional coupler. The rejection ignores the fact that Crane discloses that the ferrite technology works well up to 60

GHz, which is 60 times higher than the 1GHz frequency being used by Pavlic. Crane, col. 1: 42-46. Further, the Examiner does not explain why one of skill in the art would ignore the teaching of Crane and still use a ferrite coupler in one instance while adopting the teachings of Crane and replace the ferrite couplers of Pavlic in another instance, particularly when Crane explains that both the low band and high band frequencies of concern in Pavlic are well within the capabilities of the ferrite technology. Clearly, the rejection is nothing more than picking and choosing components from the prior art to follow the trail blazed by Applicant, and hence is nothing more than a recognition after the fact of the merits of Applicant's invention.

Moreover, the stated rationale for making the combination, "to reduce circuit complexity and weight and further coupled directional couplers together to achieve a broad bandwidths of frequencies" does not appear to be based on any reasonable scientific logic, disclosure or even desire by either reference. Use of two types of couplers retains the circuitry associated with both types, i.e. requiring both types of circuitry would hardly be considered a reduction in complexity of circuitry over a system with one type. As to the weight, neither reference appears to be concerned with the weight of the directional couplers, and it is not clear if this benefit would even be obtained under the combination or why such would even be a concern in a CATV communication system. Finally, there is no indication that Pavlic could not achieve desired "broad bandwidths" under its current architecture. Indeed, Crane explains that "existing ferrite technology provides acceptable performance" up to 60GHz, which is well above the upper limit of 1 GHz communication frequencies used by Pavlic by an order of magnitude of 60 times. Crane, col. 1:42-46. Accordingly, the motivation is clearly illusory, and the rejection is based on a mere recognition of Applicant's invention after the benefit of reviewing it.

The rejection bears all of the classic hallmarks of impermissible hindsight and should be withdrawn.

As neither Pavlic nor Crane, taken alone or in combination, disclose or suggest all of the limitations of amended claims 1, 8 or 15, these references do not render these claims unpatentable. Furthermore, reliance on Crane is impermissible in an obviousness rejection. Finally, the rejection bears all of the hallmarks of relying on impermissible hindsight. Likewise, claims 2, 3, 6, and 7 which depend on claim 1; claims 9, 10, 13 and 14 which depend on claim 8; nor claims 16 and 19 which depend on claim 15 are rendered unpatentable by Pavlic or Crane taken alone or in combination.

III. Conclusion

Having fully responded to the Office action, the application is believed to be in condition for allowance. Should any issues arise that prevent early allowance of the above application, the examiner is invited contact the undersigned to resolve such issues.

To the extent an extension of time is needed for consideration of this response, Applicant hereby request such extension and, the Commissioner is hereby authorized to charge deposit account number 502117 for any fees associated therewith.

Respectfully submitted,

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